Bridge Culvert Inspection

Bridge File Number	77462 -1 Bridge Culvert	Form Type	CUL1
Year Built	1972	Lot No.	1
Bridge or Town Name	NORDEGG	Inspector Name	Owen Salava
Located Over	JACKFISH CREEK, 6.165, WATERCRS-ST	Inspector Class	BR CLS A
Located On	11:08 C1 9.547	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	06-Feb-2012
Legal Land Location	NW SEC 32 TWP 40 RGE 11 W5M	Data Entry By	Marcia Chavez
Longitude, Latitude	-115:33:21, 52:29:36	Data Entry Date	02-Mar-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA18	Review Date	23-Feb-2012
Clear Roadway/Skew	13.1 / -30 deg. (LHF)	Dept. Reviewer Name	Andrew Smikles
AADT/Year	1,290 / 2010 (A)	Dept. Review Date	21-Mar-2012
Road Classification	RAU-213.4-120	Follow-Up By	
Detour Length (km)	80		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1429	1575	SPE	69.5	152X51		ELLIPSE

Special Features	
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	South side of road.	Gas	
Power	1 wire @ North r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Curve to the East. Bottom of sag, limited sight distance.
Vertical Alignment		7	7	
Roadway Width (m)	13.100			
Embankment		5	5	Minor scour of sideslope @ D/S end, repaired with rock. At South.
Sideslope (__:1)	2.0			
(Height of Cover(m) : **7.3**)				
Guardrail (Y/N)	Yes			South side only.
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		N		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		6	X	Straight cut, no bevel. Rebar beaver grid.
Heaving (mm)	0			
Invert Above/Below Stream Bed				Large lake U/S of culvert.
Above/Below (mm)	0			
Scour Protection		7	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **100**)				
Scour/Erosion		7	N	
Beavers (Y/N)	Yes			
Upstream End General Rating		**6**	**7**	Based on scour from 03May2010.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE**)				
Barrel Last Accessible Date	06-Feb-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	6	Roof estimated.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	50			
Percent Sag				
Sidewall		N	N	Could be r=3 condition if cracked seams along sidewall. At midspan.
Measured Span (mm)	1450			
Measured At Ring No.				
Deflection (mm)	21			1.5%
Percent Deflection	1			
Floor		N	N	Covered in rock/drift/ice.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	
Separation (mm)	0			
Longitudinal Seams		N	N	(Lower seams nto visible. 17Aug2000).
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	5	(Some pitting on floor. 2000/08/17) - Ice covered.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE**)				
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	U/S opening has beaver grate catching drift.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**3**	**3**	G.R. carried forward since 17/Aug/2000.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	Minor superficial rust. Bent @ SE shoulder, ok.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	50			
Scour Protection		6	N	(Rock & natural. 03May2010) - Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		6	N	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	D/S channel bends 40 degree SE 10m from outlet.
Bank Stability		5	5	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading				Unknown
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**5**	**5**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Dewater & conduct Lvl 2 inspection.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**38.1/39.1**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	It appears that sidewall seams were rated 3 on 17Aug2000 or earlier, and that r=3 condition not viewed since that time.	Department Comments	

Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Owen Salava	Previous Assistant's Name			
Next Inspection Date	06-Nov-2013	Previous Inspection Date	03-May-2010		
Inspection Cycle (Default) (months)	21				
Comment					

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Dewater & conduct Lvl 2 inspection.	Defer			
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**38.1/39.1**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	It appears that sidewall seams were rated 3 on 17Aug2000 or earlier, and that r=3 condition not viewed since that time.	Department Comments	Currently programmed to be replaced in 2019.

Maintenance Reviewed By	Andrew Smikles	Date	31-Oct-2012	Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					
Proposed Action					

Previous Inspector's Name	Owen Salava	Previous Assistant's Name	
Next Inspection Date	06-Nov-2013	Previous Inspection Date	03-May-2010
Inspection Cycle (Default) (months)	21		
Comment			